



## DECLARATION

I, BAE, Jung-ah translator, working at Leaders Bldg. 3F, 1599-11 Seocho-dong, Seocho-gu, Seoul 137-070, Republic of Korea, do hereby declare that I am familiar with the English language as a Korean and that the attached is a true English translation of the Korean transcript of Korean Patent Application No. 2003-0029089 filed with the Korean Intellectual Property Office on May 7, 2003.

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FIG. 1

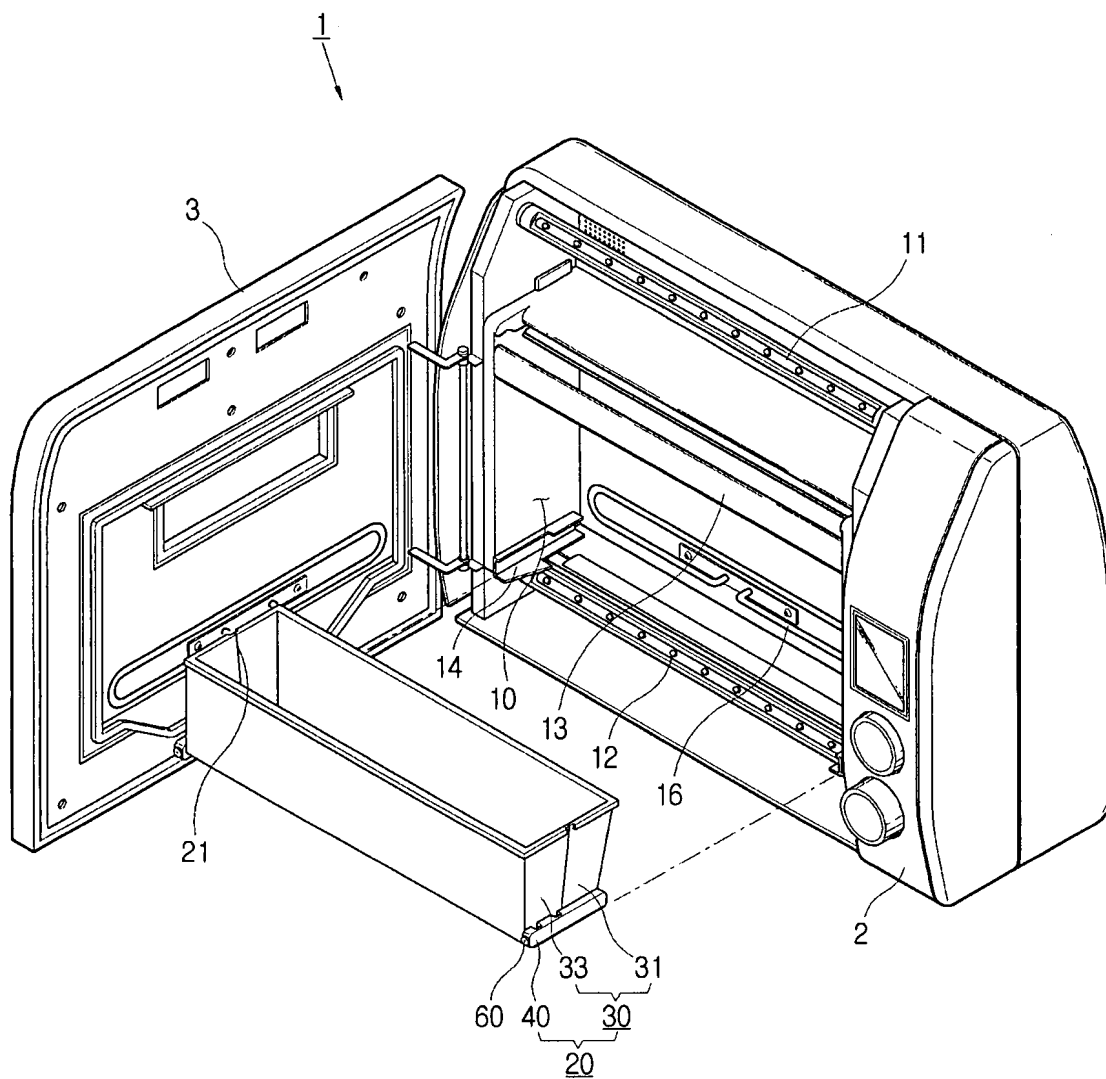




FIG. 2

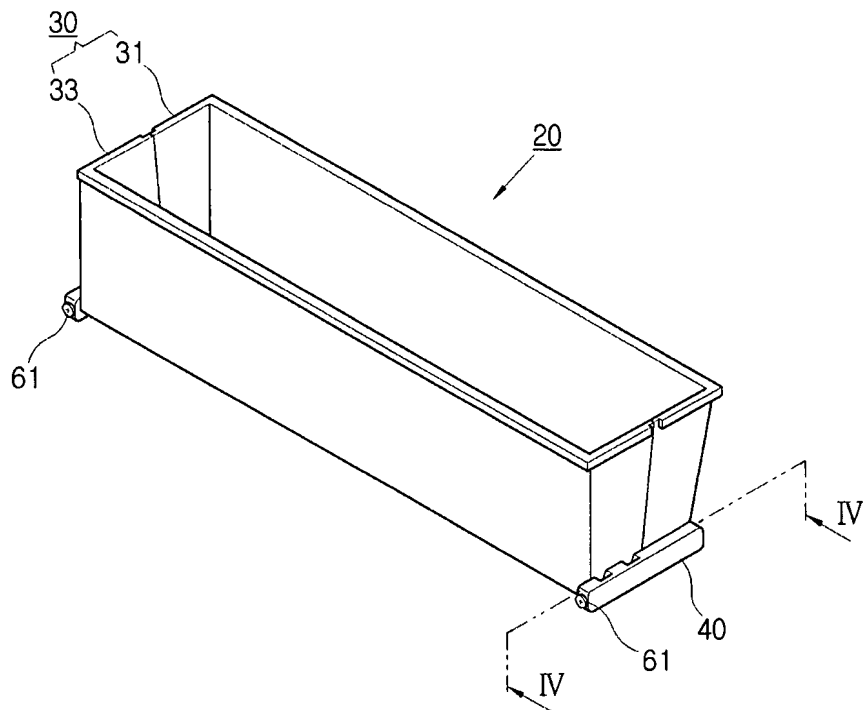




FIG. 3

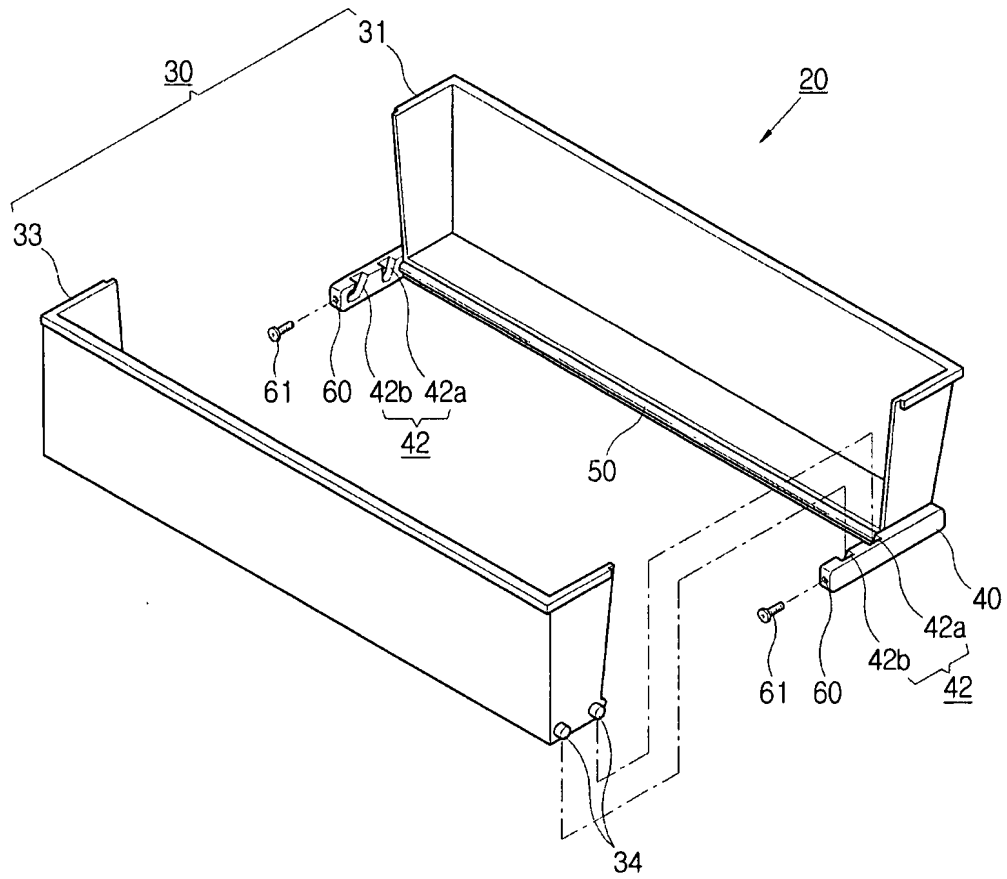




FIG. 4

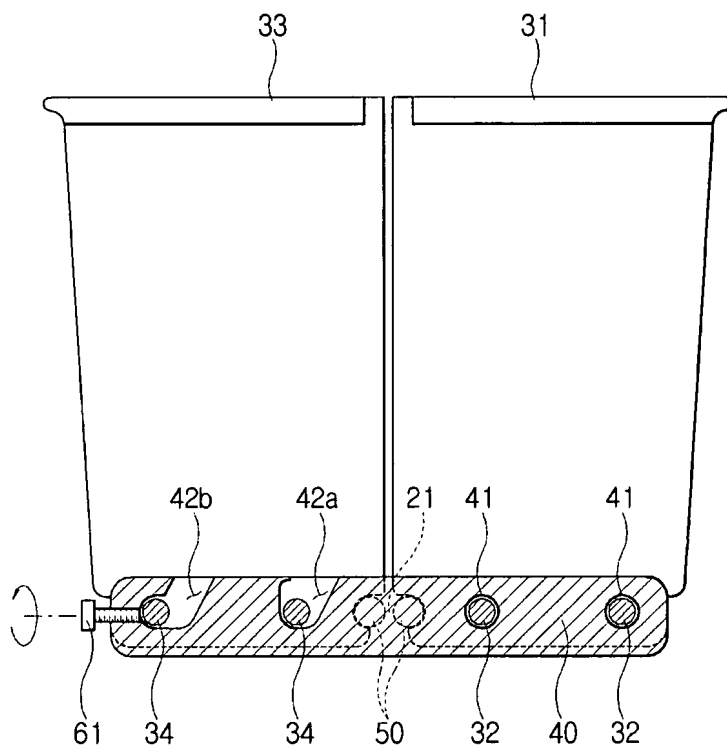




FIG. 5

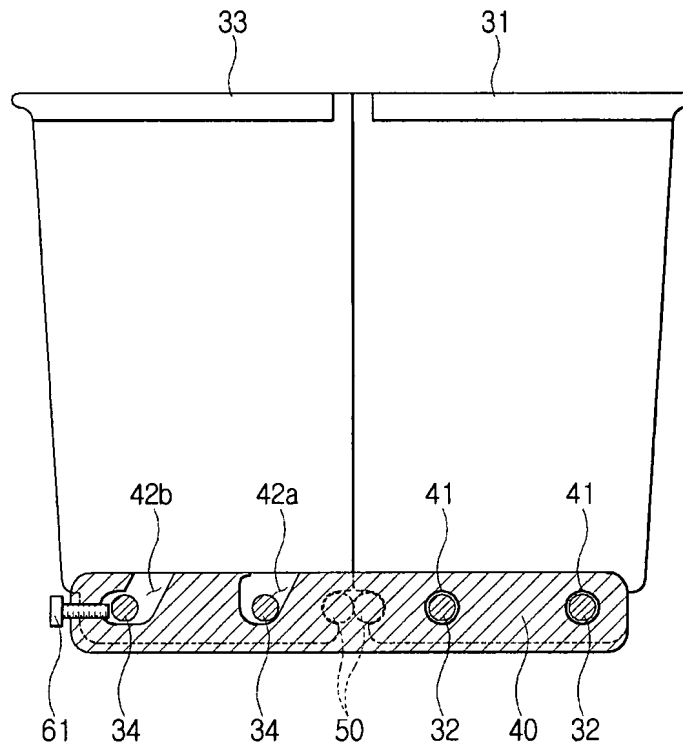




FIG. 6

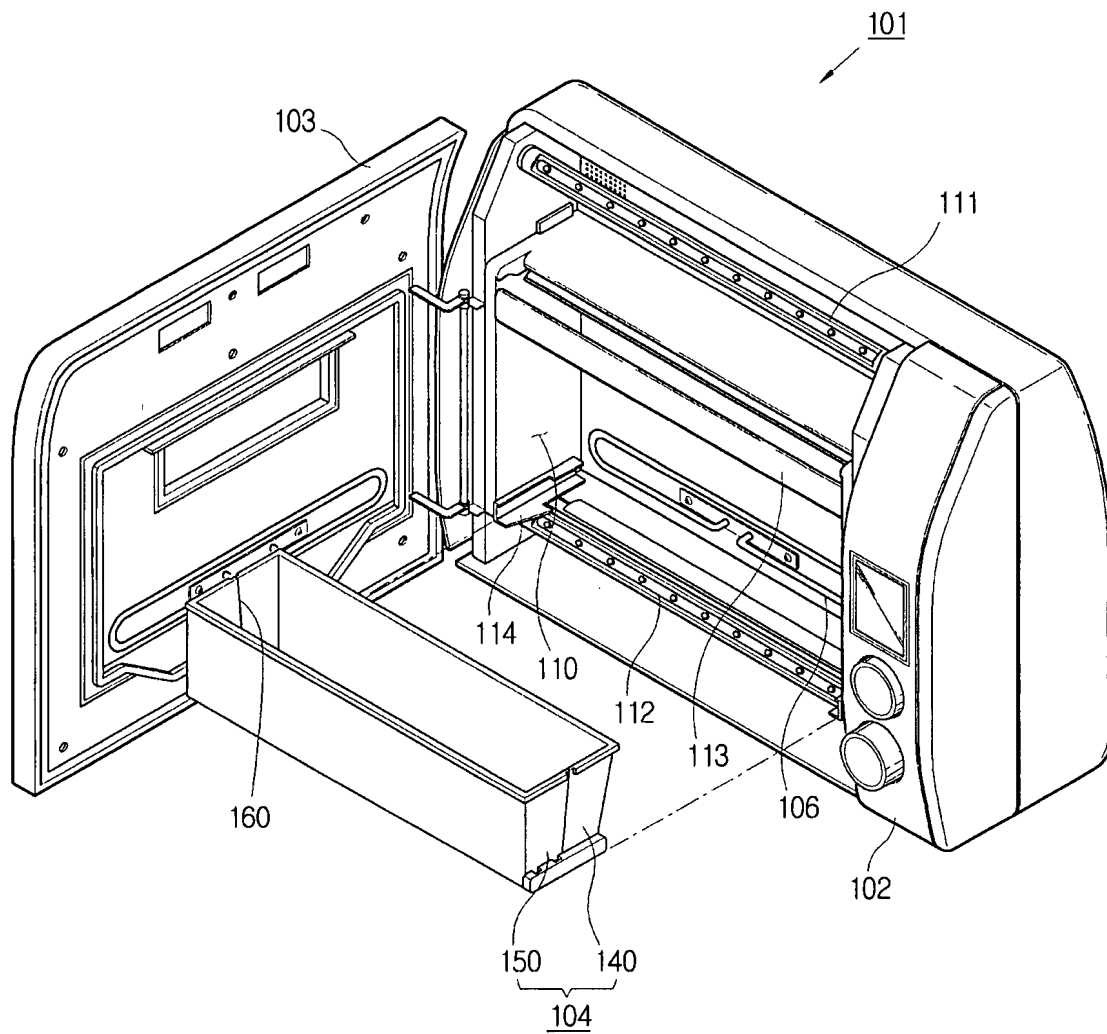
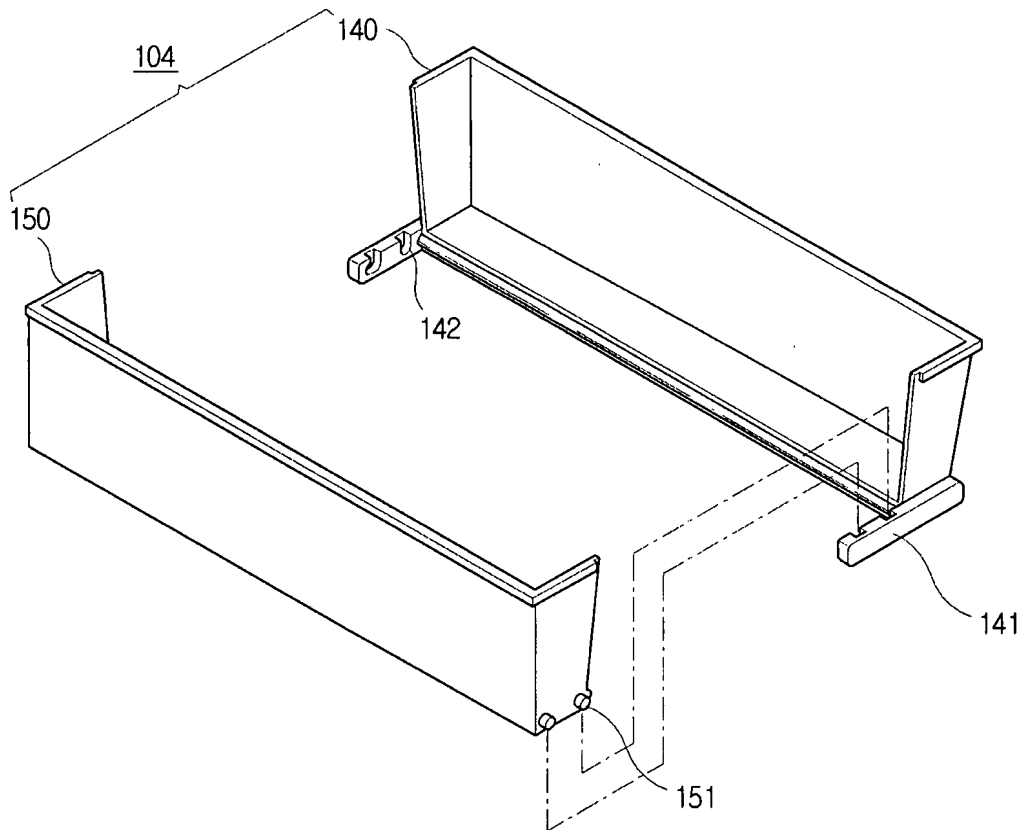




FIG. 7





## ABSTRACT OF DISCLOSURE

A bread maker comprising: a main body forming an oven compartment; and a pair of kneading drums which are spaced from each other in upper and lower parts of the oven compartment and hold opposite ends of a mixing bag, respectively, the bread maker includes: a baking tray comprising stationary and movable tray members which are disposed between the pair of kneading drums to face each other and forms a slit to pass the mixing bag therethrough, the movable tray member being formed with combining projections on opposite sidewalls thereof; and a pair of tray holder members which stationary supports the stationary tray member and is formed with guide grooves to accommodate the combining projections for rotatably supporting the movable tray member, being combined with opposite ends of the baking tray, wherein a screw hole communicating with the guide groove is formed at one end of each of the tray holder members and an adjusting member moving the movable tray member is connected with the screw hole, so that the width of the slit can be adjusted.

## REPRESENTATIVE DRAWING

FIGURE 2

## TITLE OF THE INVENTION

## OVEN FOR BAKING BREAD

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view illustrating a baking tray assembly slid out of an oven compartment of a bread maker according to the present invention;

FIG. 2 is a combined perspective view of a baking tray assembly of the bread maker in FIG. 1;

FIG. 3 is an exploded perspective view of the baking tray assembly of FIG. 2;

FIGS. 4 and 5 are sectional views illustrating the state that a movable tray moves for adjusting the width of a slit, taken along line IV-IV in FIG. 2.

## &lt;Reference numerals of main elements&gt;

- |  |                            |
|--|----------------------------|
| 1: main body                                 | 2: operation display panel |
| 3: door                                      | 10: oven compartment       |
| 11: upper kneading drum                      | 12: lower kneading drum    |
| 13: dough-blocking member                    | 14: guide member           |
| 16: baking heater                            | 20: baking tray assembly   |
| 21: slit                                     | 30: baking tray            |
| 31: stationary tray member                   | 32: stationary protection  |
| 33: movable tray member                      | 34: combining projection   |
| 40: tray holder member                       |                            |
| 41: stationary projection accommodating part |                            |

42: guide groove

50: dough profile part

60: screw hole

61: adjusting bolt

## BACKGROUND OF THE INVENTION

### Field of the Invention

The present invention relates to a bread maker, and more particularly to a bread maker in which dough in a mixing bag can be uniformly kneaded during a kneading process.

Generally, making bread is so complicated that bread is made by using a bread maker which automatically performs multiple steps such as kneading, leavening and baking of raw materials for bread.

For example, a bread maker disclosed in Korean Patent Publication No.2001-0032188 includes a housing forming an external appearance of a bread maker; a door provided in the housing; and an LCD display part provided in a front side of the housing.

In upper and lower parts inside of the housing are placed upper and lower rollers which are rotatably disposed in parallel to wind opposite ends of a mixing bag. Between the upper and lower rollers is placed a pair of upper members preventing the raw materials kneaded in the mixing bag from being moved toward the upper roller.

Between the upper member and the lower roller is provided a baking tray which can be slid out of the oven compartment and contains kneaded materials therein.

The baking tray is of a box shape having a top opening by combining stationary movable parts symmetrical to each other. Here, along the line where the movable part meets the stationary part is formed a slit extended from a sidewall to the bottom, wherein pivot means of the movable part is combined with pivot holders.

With this configuration, the raw materials contained in the mixing bag are reciprocated up and down by the upper and lower rollers during a kneading process, thereby being kneaded between the upper member and the baking tray. After completing the kneading process, the mixing bag is removed and dough contained in the baking tray is baked.

In the conventional bread maker, the mixing bag is reciprocated up and down through the slit of the baking tray during a kneading process. Here, when the mixing bag is moved up, the upper member prevents the dough in the mixing bag from being moved up toward the upper roller and when the mixing bag is moved down, the dough in the mixing bag cannot pass the narrow slit of the baking tray, so that the dough can be repetitively kneaded. Thus, it is essential to keep the width of the slit constant in spite of a repetitive usage. Hence, to get well-kneaded uniform

dough from materials in the mixing bag, a means for adjusting the width of the slit may be required so as to keep the width of the slit constant.

#### ASPECT OF THE INVENTION

Accordingly, it is an aspect of the present invention to provide a bread maker in which dough in a mixing bag can be uniformly kneaded during a kneading process.

Additional aspects and advantages of the invention will be set forth in part in the description which follows and, in part, will be obvious from the description, or may be learned by practice of the invention.

#### CONFIGURATION OF THE INVENTION

The foregoing and other aspects of the present invention are achieved by providing a bread maker comprising: a main body forming an oven compartment; and a pair of kneading drums which are spaced from each other in upper and lower parts of the oven compartment and hold opposite ends of a mixing bag, respectively, and further comprising: a baking tray comprising stationary and movable tray members which are disposed between the pair of kneading drums to face each other and forms a slit to pass the mixing bag therethrough, the movable tray member being formed with combining projections on opposite sidewalls

thereof; and a pair of tray holder members which supports the stationary tray member and is formed with guide grooves to accommodate the combining projections for rotatably supporting the movable tray member, being combined with opposite ends of the baking tray, wherein a screw hole communicating with the guide groove is formed at one end of each of the tray holder members and an adjusting member moving the movable tray member is connected with the screw hole, so that the width of the slit can be adjusted.

According to an aspect of the invention, each of the tray holder members is formed with a first guide groove positioned adjacent to the inside and a second guide groove positioned adjacent to the outside and the screw hole is communicated with the second guide groove toward the transverse direction of the slit.

According to an aspect of the invention, the bread maker further comprising: a pair of dough profile parts which is projected to face each other in the slit and contacts with the mixing bag

According to an aspect of the invention, the adjusting member is an adjusting bolt screw-engaged with the screw hole.

The embodiments are described below in order to explain the present invention by referring to the figures.

FIG. 1 is a perspective view illustrating a baking

tray assembly slid out of an oven compartment of a bread maker according to the present invention, FIG. 2 is a combined perspective view of a baking tray assembly of FIG. 1 through FIG. 3 is an exploded perspective view of the baking tray assembly of FIG. 2.

As shown in these drawings, a bread maker according to of the present invention comprises: a main body 1 provided with an oven compartment 10; a door 3 to rotatably open and close a front opening of the oven compartment 10; and an operation display panel 2 in a front side of the main body 1 to display an operation state of the main body 1.

In upper and lower parts inside of the oven compartment 10 are placed upper and lower kneading drums 11 and 12 which are rotatably disposed in parallel to wind opposite ends of a mixing bag filled with raw materials for bread in clockwise and counterclockwise directions. Between the upper and lower kneading drums 11 and 12 is placed a pair of dough-blocking members 13 preventing the raw materials kneaded in the mixing bag from being moved toward the upper kneading drum 11.

In the lower part of the oven compartment 10, a baking tray assembly 20 which can be slid out of the component compartment 10 and contains kneaded materials for bread therein is provided between the upper and lower

kneading drums 11 and 12.

The baking tray assembly 20 includes a baking tray 30 comprising stationary and movable tray members 31 and 33 of an "L" shaped section symmetrical to each other; and a pair of tray holder members 40 connected with opposite ends of the stationary and movable tray members 31 and 33.

At lower parts of opposite sidewalls of the stationary tray member 31, stationary projections 32 to be securely combined with the pair of tray holder members 40 are projected from surfaces of the opposite sidewalls of the stationary tray member 31. At lower parts of opposite sidewalls of the movable tray member 33, combining projections 34 to be movably combined with the pair of tray holder members 40 are projected from surfaces of the opposite sidewalls of the movable tray member 33.

The pair of tray holder members 40 is slidably coupled with guide members 14 which are mounted on opposite inner sidewalls of the oven compartment 10 to face each other. At parts to be combined with the stationary tray member 31, stationary projections accommodating parts 41 in which the stationary projections 32 of the stationary tray member 31 are inserted are grooved in the tray holder member 40. At parts to be combined with the movable tray member 33, guide grooves 42 in which the combining projections 34 of the movable tray member 33 are movably

inserted are formed in the tray holder member 40.

Here, the guide grooves 42 form a pair in each of the tray holder members 40 and each comprises: a first guide groove 42a positioned adjacent to the stationary tray member 31 and a second guide groove 42b positioned adjacent to the first guide member 42a.

If the stationary projections 32 of the stationary tray member 31 are inserted in the stationary projections accommodating parts 41 of the tray holder member 40, the stationary tray member 31 is securely mounted on the tray holder member 40. Similarly, if the combining projections 34 of the movable tray member 33 are movably inserted in the guide grooves 42 of the tray holder member 40, the movable tray member 33 is movably mounted on the tray holder member 40.

If the stationary and movable tray members 31 and 33 are mounted on the tray holder member 40 with facing each other, then the baking tray 30 of a box shape having a top opening for containing the raw materials for bread is formed. Along the line where the stationary and movable tray members 31 and 33 are met is formed a slit. In the slit 21 is provided a dough profile part 50 which is projected to face each other and contacted with the mixing bag introduced between the slit.

The bread maker according to the present invention

further comprises an adjusting means which adjusts the width of the slit 21 so as to keep the width constant when the mixing bag is reciprocated up and down through the slit 21.

The adjusting means comprises: a screw hole 60 which is formed at the front end of the tray holder member 40 toward the transverse direction with respect to the longitudinal direction of the slit 21 with respect to a longitudinal direction and communicated with the second guide groove 42b; and an adjusting bolt 61 as an adjusting member which is screw-engaged with the screw hole 60 and moves the movable tray member 33 toward the transverse direction with respect to the longitudinal direction of the slit 21, so that the width of the slit 21 can be adjusted.

If the adjusting bolt 61 screw-engaged with the screw hole 60 formed with a screw thread is rotated for adjusting the width of the slit, the threaded part of the adjusting bolt 61 is moved forward into the second guide groove 42b toward the transverse direction with respect to the longitudinal direction of the slit 21. Then, the combining projection 34 in the second guide groove 42b is moved forward along the transverse direction of the slit 21 because the adjusting bolt 61 moved forward pushes the combining projection 34 forward. Accordingly, also the movable tray member 33 formed with the combining projection

34 is moved forward very little, so that the width of the slit 21 between the stationary and movable tray members 31 and 33 can be adjusted.

With this configuration, one end of the mixing bag to be contained inside of the oven compartment 10 is wound by the upper kneading drum 11. Then, the other end of the mixing bag passes through the pair of dough-blocking members 13 and the slit 21 formed at the bottom of the baking tray 30 and then is wound by the lower kneading drum 12. The mixing bag filled with the raw materials for bread is reciprocated up and down by the upper and lower kneading drums 11 and 12 during a kneading process, so that the raw materials for bread are kneaded between the pair of dough-blocking members 13 and the baking tray 30. After completing this kneading process, the mixing bag is released from the upper kneading drum 11 because only the lower kneading drum 12 is rotated. Then, the mixing bag passes through the pair of dough-blocking members 13 and finally the slit 21 formed at the bottom of the baking tray 30. Here, when the mixing bag passes through the slit 21 of the baking tray 30, the raw materials for bread contained in the mixing bag cannot pass the slit 21 of the baking tray 30, so that they are separated from the mixing bag and contained in the baking tray 30. However, the mixing bag can pass the slit 21 of the baking tray 30 and is wound by

the lower kneading drum 12. Thereafter, the raw materials for bread contained in the baking tray 30 are baked by the baking heater 16.

In the bread maker of the present invention, the width of the slit 21 can be adjusted by the adjusting bolt 61, which makes the raw materials contained in the mixing bag uniformly kneaded between the pair of dough-blocking members 13 and the baking tray 30.

For example, if the width of the slit 21 is broader or narrower than the predetermined width which should be kept for the uniform kneading, the width of the slit 21 can be adjusted by rotating each of the adjusting bolts 61 combined with the pair of tray holder members 40.

As shown in FIGS. 4 and 5, if the adjusting bolt 61 screw-engaged with the screw hole 60 formed with a screw thread is rotated for adjusting the width of the slit 21, the threaded part of the adjusting bolt 61 is moved forward into the second guide groove 42b along the transverse direction of the slit 21. Then, also the combining projection 34 in the second guide groove 42b is moved forward toward the transverse direction of the slit 21 because the adjusting bolt 61 moved forward pushes the combining projection 34 forward. Accordingly, also the movable tray member 33 formed with the combining projection 34 is moved forward very little, so that the width of the

slit 21 between the stationary and movable tray members 31 and 33 can be adjusted. In contrast, if the adjusting bolt 60 is rotated in the reverse direction, the adjusting bolt 61 contacted with the combining projection 34 in the second guide groove 42b is moved backward. Thus, also the movable tray member 33 is moved backward apart from the stationary tray member 31, so that the width of the slit can be adjusted.

In the bread maker of the present invention is provided the adjusting means having the screw hole 60 and the adjusting bolt 61. Therefore, the width of the slit 21 can be adjusted so as to keep the width of the slit 21 constant, which is required for the uniform kneading the dough in the mixing bag reciprocated up and down through the slit 21 in the contact state to the dough profile part 50 during the kneading process.

#### EFFECT OF THE PRESENT INVENTION

As described above, according to the present invention, the width of the slit can be adjusted so as to keep the width constant, so that the materials in the mixing bag can be uniformly kneaded during the kneading process.

## WHAT IS CLAIMED IS:

1. A bread maker comprising: a main body forming an oven compartment; and a pair of kneading drums which are spaced from each other in upper and lower parts of the oven compartment and hold opposite ends of a mixing bag, respectively, the bread maker comprising:

a baking tray comprising stationary and movable tray members which are disposed between the pair of kneading drums to face each other and forms a slit to pass the mixing bag therethrough, the movable tray member being formed with combining projections on opposite sidewalls thereof; and

a pair of tray holder members which stationary supports the stationary tray member and is formed with guide grooves to accommodate the combining projections for rotatably supporting the movable tray member, being combined with opposite ends of the baking tray,

wherein a screw hole communicating with the guide groove is formed at one end of each of the tray holder members and an adjusting member moving the movable tray member is connected with the screw hole, so that the width of the slit can be adjusted.

2. The bread maker according to claim 1, wherein each of the tray holder members is formed with a pair of first guide grooves positioned adjacent to the inside and a

second guide groove positioned adjacent to the outside and the screw hole is communicated with the second guide groove toward the transverse direction of the slit.

3. The bread maker according to claim 2, further comprising a dough profile part which is projected to face each other in the slit and contacts with the mixing bag

4. The bread maker according to one of claims 1 to 3, wherein the adjusting member is an adjusting bolt screw-engaged with the screw hole.